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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,655

11/21/2003

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45-14-2

2375

47386 7590 05/11/2007
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EXAMINER

MERCEDES, DISMERY E

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

05/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/719,655	Applicant(s) FISCHER ET AL.	
	Examiner Dismery E. Mercedes	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal Brief filed on 1/11/2007 PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Response to Arguments

1. Applicant's arguments filed 1/11/2007 have been fully considered but they are not persuasive.

Applicant argues that the specific conditions under which the shutter is activated or enabled to selectively allow to block the magnetic field is a design choice. Examiner asserts that further explanation and description regarding the specific conditions under which the shutter is controlled, activated or enabled to selectively allow or block the path of the magnetic field to alter the magnetic

Art Unit: 2627

domain of the magnetic storage material is very important to further understand the selection under which the shutters are opened or closed to allow or block the magnetic field, therefore it is not a matter of design choice. The Examiner agrees with the applicant in that the use of a known shutter device such as MEMS can be used. However, what is not clear are the specific conditions under which the applicant wishes to employ to control the shutter device (i.e. what will “activate” or “trigger” the shutter to open or close?).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe, the claim limitation “a shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium.” It does not describe how is the shutter controlled so as to selectively (what is this selection based on?) allow or inhibit the path of the magnetic field to alter the magnetic domain of the magnetic storage medium. Furthermore it does not describe how the medium is attached and how the medium behaves when it is allowing or inhibiting the magnetic flux of the write coil. The Specification mentions actions of “open” and “close”, but these descriptions are insufficient for one of ordinary skill in the art to understand how is this “shutter” controlled (what triggers the opening or closing of the shutters) when working in the head in order to selectively

allow the magnetic field to alter this magnetic domain. See *In re Wands*, 858 F.2d 731,737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1998) as appropriate. See also MPEP 57 2164.01(a) and § 2164.04. Hence, there would be undue experimentation to make and use the invention.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crue et al. (US Patent No. 6,693,768) in view of Tamura et al. (US 6,812,055).

As to Claim 1, Crue et al. discloses a magnetic storage system, comprising: at least one write coil to generate a magnetic field for at least a plurality of bit intervals (see figs. 2-4, "44"); a magnetic storage medium (see fig. 1, "16"). Even though Crue et al. discloses altering the magnetic domains of the magnetic medium, by changing the direction of the magnetic field to change the binary data to be recorded (col. 3, lines 36-42), Crue et al. fails to specifically disclose at least one shutter at least one shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium. However, Tamura et al. discloses such (col.17, lines 5-38 wherein a MEMS device comprising a shutter to block or allow the signal level by placing a shutter into and out of the optical path--and col.18, lines 35-67 wherein the MEMS device functions as an electrical switch that are selectively closed or open, controlling the path of current flow between the electrical contacts). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention

Art Unit: 2627

to modify the system as disclosed by Crue et al. by implementing a shutter as disclosed by Tamura et al. the motivation being to provide a device that selectively generates displacement forces (see co.1, lines 23-25).

As to Claim 2, Tamura et al. further discloses wherein having at least one pole segment to provide a loop between the rite coil and the storage medium (see fig.9A and col.13,lines 15-32) (Note: limitation also disclosed by Crue et al. fig. 13 and Col. 7, lines. 54 to Col. 8, lines. 7, wherein Crue et al. teaches a loop being formed from the pole to the medium in order to be able to record a binary number.).

As to Claim 3, Tamura et al. further discloses a first write coil to generate a positive magnetic field, a second write coil to generate a negative magnetic field, and at least two shutters to selectively allow said positive or negative magnetic fields to alter said magnetic domain of said magnetic storage medium (see col.18, lines 10-35).

As to Claim 4, Crue et al. further discloses wherein said positive or negative magnetic fields alter said magnetic domain in a collocated region of said magnetic storage medium (col.3, lines 45-55).

As to Claim 5, Tamura et al. further discloses a first set of magnetic pole segments to provide a first loop between said first write coil and said magnetic storage medium and a second set of magnetic pole segments to provide a second loop between said second write coil and said magnetic storage medium (see fig.9A and col.13, lines 15-32 and col.18, lines 9-34).

As to Claim 6, Tamura et al. further discloses wherein a position of said shutter is adjusted using MEMS (see col.17, lines 5-45 and summary of invention).

As to Claim 7, Tamura et al. further discloses wherein at least one of said shutters is coated with a magnetic shielding (col.17, lines 45-50).

As to Claim 8-9, Tamura et al. further discloses wherein the magnetic shielding is comprised of Nickel; wherein the magnetic shielding is comprised of Cobalt (see col.7, lines 45-53-where the actuable material maybe comprised of nickel or cobalt and the shutters maybe coated with the same type of material as the actuable material).

As to Claims 10-13 are method claims drawn to the apparatus of claims 1,3,4,6 and therefore is rejected for similar reasons as set forth in the rejection of claim 1,3,4,6 above.

As to Claims 14-20 have limitations similar to those treated in the rejection of claims 1-7 and are met by the references as discussed above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Reiss et al. (US 5,701,185); Hirose (US 5,448,434);Nagata et al. (US 6,567,349);Miyake et al. (US 5,500,839);Nagatsuka et al. (US 6,411,596);Ikeda et al. (US 6,731,446).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit: 2627

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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SUPERVISORY PATENT EXAMINER